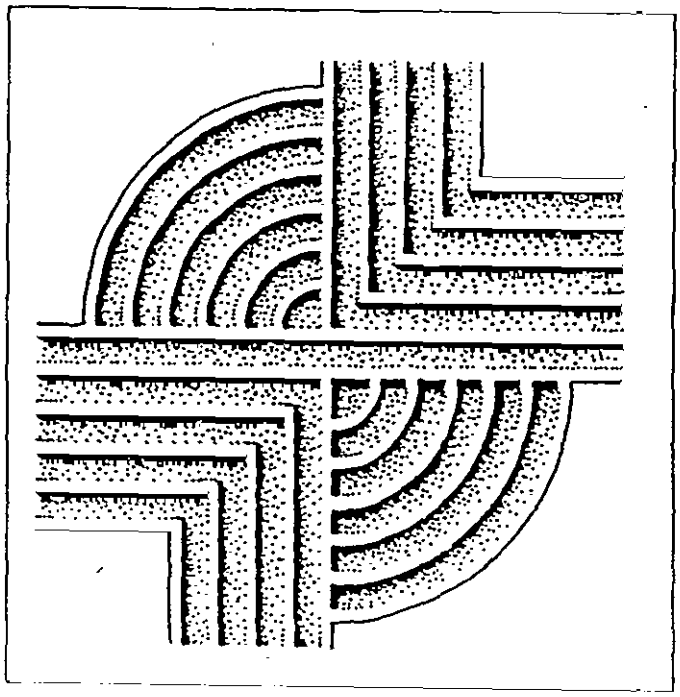
ARCHAEOLOGICAL SURVEY OF THE PROPOSED WALHALLA FISH HATCHERY EDUCATIONAL BUILDING SITE, OCONEE COUNTY, SOUTH CAROLINA



CHICORA RESEARCH CONTRIBUTION 290

ARCHAEOLOGICAL SURVEY OF THE PROPOSED WALHALLA FISH HATCHERY EDUCATIONAL BUILDING SITE, OCONEE COUNTY, SOUTH CAROLINA

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ABSTRACT

This study reports on an intensive archaeological survey of the location proposed for an educational building at the Walhalla Fish Hatchery. The Fish Hatchery is situated at the end of S-325, about 1.8 miles north of SC 107 in northern Oconee County. The facilities consist of a series of fish rearing tanks, support buildings, and a manager's house. To this the S.C. Department of Natural Resources is proposing to add an educational building, situated on a hillside at the northwestern edge of the complex.

The addition will consist of an 1,800 square foot educational building, a construction staging area, and a utility corridor, measuring about 30 feet wide by 200 feet in length. Although these areas were to be staked prior to the survey, we found that only a general area had been designed. As a result, we surveyed an area partially situated within the existing fish hatchery fence and partially on the edge of a steep hillside measuring about 200 feet east-west by 125 feet north-south and encompassing about 0.6 acre. This area was identified by the site manager as the approximate location of the proposed building. Also surveyed was a utility corridor running from an existing power pole situated to the north of a support building westward to the anticipated building site. This corridor, approximately 30 by 200 feet, represents an additional 0.1 acre. The surveyed area has been marked in the field with paint blazes on perimeter trees.

The proposed use of the tract will result in clearing and grubbing, associated with extensive grading and construction. This has the potential to damage or destroy any archaeological sites which might be present. The proposed construction will use federal funding and this study was conducted in order to assist the S.C. Department of Natural Resources comply with the National Historic Preservation Act of 1966 as amended. The work was conducted under Purchase Order 00 002832 under a request for proposals dated January 6, 2000 and our proposal dated January 12, 2000.

Consultation with the S.C. Department of Archives and History revealed no National Register properties in the immediate area. Likewise, an investigation of the site files at the S.C. Institute of Archaeology and Anthropology revealed no previously recorded archaeological sites in the immediate tract vicinity. Consultation with the S.C. Department of Natural Resources Archaeologist, Mr. Chris Judge, revealed that flakes had been identified around the manager's house, situated about 300 feet to the east-northeast of the project area.

The archaeological survey consisted of shovel testing at 50-foot intervals throughout the tract. Although the steeply sloping areas and eroded soils would have allowed less intensive survey in many areas, we chose to standardize the survey to determine if any cultural materials might conceivably be found in areas traditionally thought to be unproductive. In addition, the survey area was so small that there was time to conduct this level of investigation. All shovel test fill was screened through ¼-inch mesh and the shovel tests were backfilled at the completion of the study. A total of 18 shovel tests were excavated during the study.

To the east we found extensive disturbance caused by the construction of a septic tank drainage field. To the west the survey area was bordered by a series of fish burial pits. In between, there was considerable slope to the north, while to the south, within the fenced area of the fish hatchery, we found that previous construction had removed at least the upper one to two feet of soil. There was a fairly narrow area of relatively flat terrace where shovel testing revealed deep soils (probably incorporating erosion deposition). No archaeological sites were identified in the survey area.

We did identify two architectural sites in close

proximity to the general survey area.

Site U/73/0000/5080015.00 is the stone hatchery building constructed using WPA and CCC labor in 1937. This building exhibits excellent integrity and is an unusual representative of depression era construction in South Carolina. It is recommended eligible for inclusion on the National Register of Historic Places under Criteria A and C. Associated with the hatchery building is site 5080015.01, a fish rearing tank constructed in the mid-1950s to replace the circular tanks built by the CCC. This complex is situated 400 feet southeast of the proposed educational building.

Site U/73/0000/5080016.00 is the weatherboarded manager's house, also constructed by WPA and CCC labor in 1937. The house is of frame construction on a rock foundation and is in excellent conduction, possessing exceptional integrity. This structure is associated with two garage-shops to the rear of the house (site 5080016.01), also both in good condition. This complex is also recommended eligible for inclusion on the National Register under Criteria A and C. This complex is situated about 300 to 500 feet to the east of the proposed new building site.

It is possible that the proposed new building will visually intrude and affect the viewshed of these two building complexes. As a result, we recommend that the S.C. Department of Natural Resources develop plans that minimize this intrusion, perhaps by ensuring the new building is similar is form, mass, and siting as the existing buildings. We recommend that the State Historic Preservation Office be consulted to develop ways of minimizing the potential affect of the new construction.

It is possible that archaeological remains may be encountered in the corridor during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office or to the S.C. Department of Natural Resources Archaeologist (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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ACKNOWLEDGMENTS

I appreciate the support and assistance of Mr. Mac Watson, Hatchery Coordinator and Mr. Andy Algood, Site Manager at the Walhalla Fish Hatchery. We appreciate the opportunity to provide this study for their use. We also appreciate the assistance provided by Mr. Chris Judge, archaeologist with the S.C. Department of Natural Resources.

I want to thank Mr. Tom Covington who assisted in this fieldwork and who was also responsible for assembling the background information for this project. I appreciate his dedication and thoroughness.

In addition, I appreciate the assistance and cooperation of the staff of the S.C. Institute of Archaeology and Anthropology, particularly Mr. Keith Derting. Finally, we also appreciate the time and effort of the S.C. Department of Archives and History Search Room staff, who assisted us in our research, as well as Mr. Dan Vivian, who provided the state site numbers for the two architectural complexes identified during this work.

INTRODUCTION

Background

This investigation was conducted by Dr. Michael Trinkley and Mr. Tom Covington of Chicora Foundation, Inc. for the S.C. Department of Natural Resources. The survey area is part of the 76.2 acre Walhalla Fish Hatchery, originally operated by the Bureau of Sport Fisheries, Department of Commerce (later the U.S. Fish and Wildlife Service), but deeded to the State of South Carolina in 1996.

The survey was to examine an area proposed for the construction of a new education and visitor's center, at the northwest edge of the current fenced hatchery compound. The area to be surveyed was to include an 1,800 square foot building footprint, a construction staging area, and the utility corridor connecting this building to the existing water, electricity, and sewage lines.

The construction is anticipated to use federal funds and this survey was conducted to assist the S.C. Department of Natural Resources comply with the provisions of the National Historic Preservation Act. A request for proposals, dated January 6, 2000 was distributed by the Department of Natural Resources, specifying that the areas to be surveyed would be staked. Our proposed was submitted on January 12, 2000 and on February 22, 2000 a purchase order (Number 00 002832) was issued for the study. The field investigation was conducted on March 13 and required a total of 4.5 person hours.

The Walhalla Fish Hatchery is situated about 15 miles north of the town of Walhalla in northern Oconee County, about 2.5 miles southeast of the point where Georgia, North Carolina, and South Carolina all touch one another. The fish hatchery is located at the end of S-325, about 1.8 miles north of its junction with SC 107 (Figures 1 and 2).

The survey included an area measuring about 200 feet east-west by about 120 feet north-south, for a total of about 0.6 acre. Also included was a utility corridor measuring about 30 feet in width by 200 feet in length, adding another 0.1 acre to the survey.

The area is steeply sloping and very rugged. The fish hatchery itself is partially situated in the floodplain of Indian Camp River, although its construction also required that some grading of the adjoining slopes be conducted. The hatchery was conducted by CCC labor as a WPA project during the Depression. Many of the original buildings are still extant (several have been recorded by this study and are recommended as eligible for inclusion on the National Register of Historic Places). The hatchery has seen additional modifications in the 1950s, when the original circular rearing tanks were replaced by three rectangular pools. An oxygen supplementation system was added in 1990. In the 1960s additional support buildings were constructed and, in 1994, public restrooms were added. We have been unable to identify any information on any previous archaeological studies which might have been conducted prior to these different projects.

The background research for this current study largely relies on the information identified in the files of the S.C. Department of Natural Resources. Our work incorporated a review of the site files at the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina State Historic Preservation Office (SC SHPO) was contacted for any information on any National Register buildings, districts, structures, sites, or objects in the vicinity of the Walhalla Fish Hatchery. No archaeological sites or eligible National Register Properties were located in, or within the general area of, the tract.

Goals

The primary goals of this study were to identify the archaeological resources located on the 0.7 acre

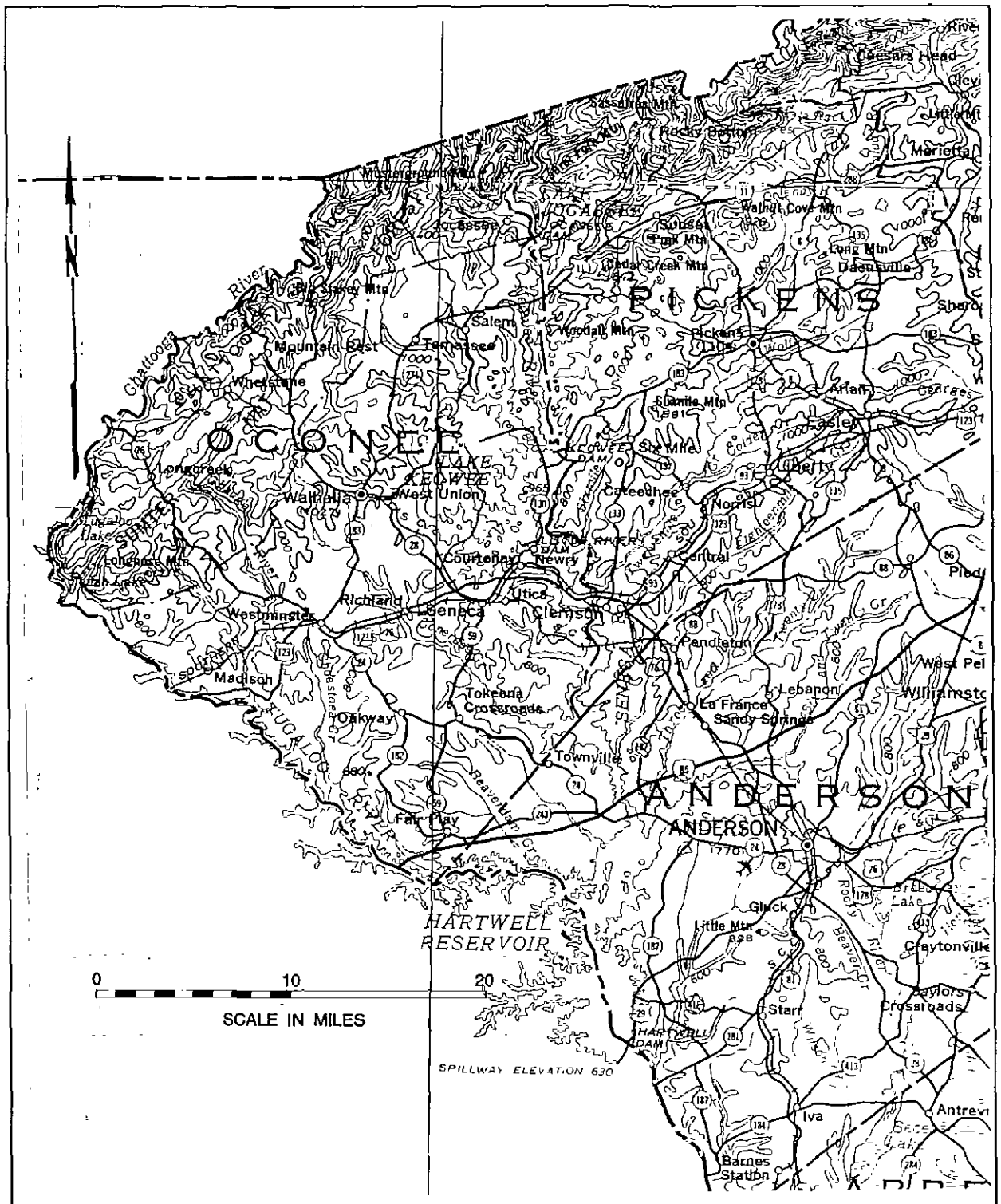

Figure 1. Vicinity of the Walhalla Fish Hatchery in northern Oconee County (base map is USGS State of South Carolina 1:500,000).

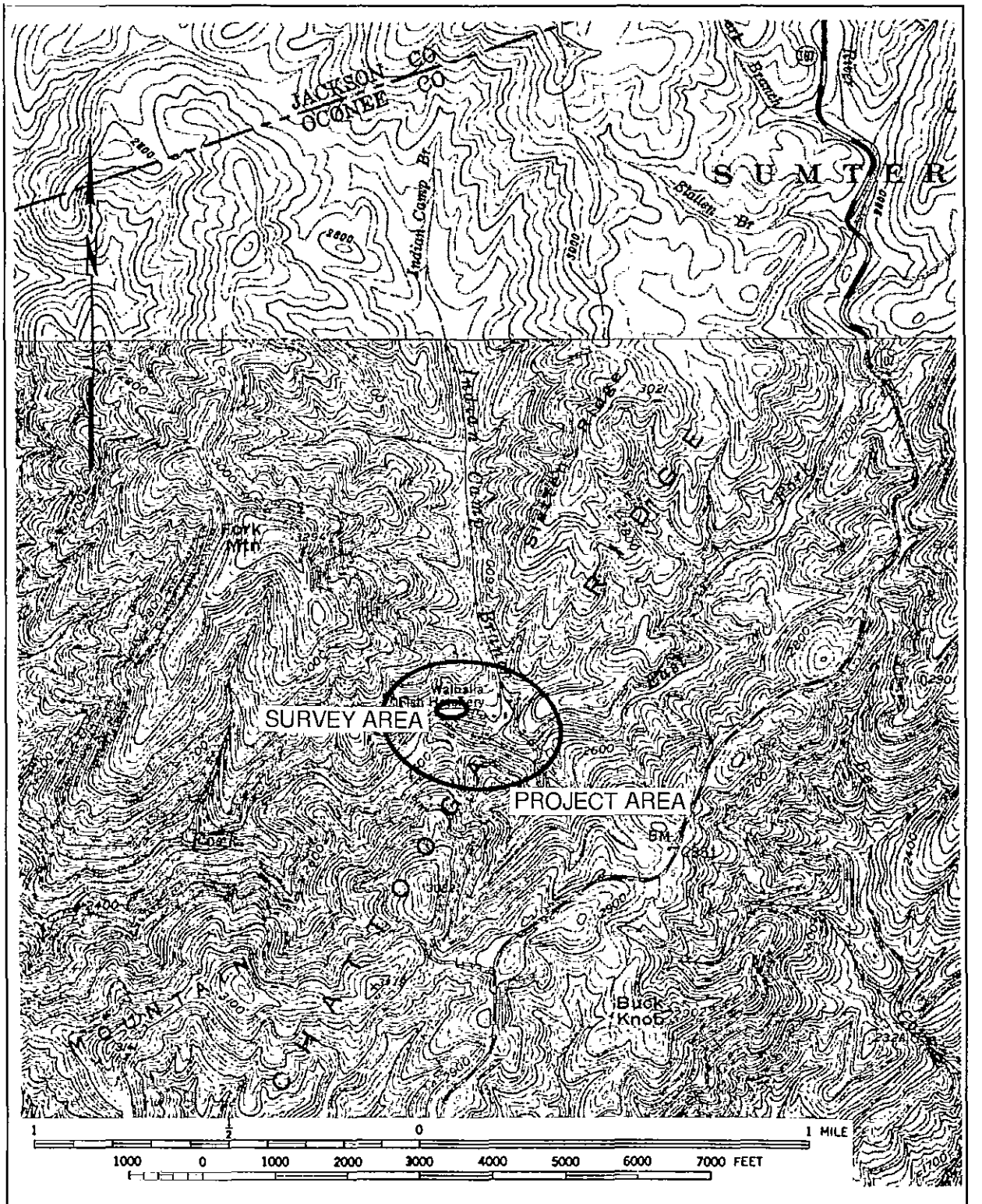

Figure 2. Project area of the Walhalla Fish Hatchery (base map is USGS Tamassee).

portion of the Walhalla Fish Hatchery proposed as the site of the new education building and visitor's center. The assessment of the resources essentially involves the site's eligibility for inclusion on the National Register of Historic Places, although Chicora Foundation provides only an opinion of National Register eligibility and the final determination is made by the lead agency in consultation with the State Historic Preservation Officer (SHPO) at the South Carolina Department of Archives and History (SCDAH).

In order to identify archaeological resources within the 0.7 acre survey tract, a strategy of intensive shovel testing was employed. This testing would help us determine the possible location of any archaeological resoruces which might be present.

It is commonly accepted in the archaeological literature that neither prehistoric nor historic sites are typically found on steeply sloping soils. As a result, such areas are rarely surveyed. In order to explore this assumption, we chose to examine all of the building parcel, including those areas of steeply sloping soils, using shovel tests at 50 foot intervals on transects spaced 50 feet apart. Although the study tract was small, we felt that this level of effort would contribute to our understanding of dynamics of soil preservation in such contexts, as well as help evaluate the need for survey in such areas on future projects.

No archaeological sites — on either a narrow terrace or on the sloping soils — were identified by the investigations.

Our study, however, did identify two architectural complexes in close proximity to the proposed building site. These architectural sites include the original 1937 fish hatchery building, the 1937 superintendent's house, the 1937 garage-workshop, and a 1937 garage for the superintendent's house. Also identified are the ca. 1950 rearing tanks which replaced the earlier CCC tanks. These complexes, because of their uniqueness and excellent integrity, are recommended eligible for inclusion on the National Register of Historic Places under criteria A (association with historic events or activities — the WPA and CCC building programs) and C (distinctive design or physical characteristics). It is likely, given the proximity of these complexes to the proposed building site and the topography of the tract, that the viewshed of these buildings will be affected by the proposed construction. As a result, we recommend that the S.C. Department of Natural Resources enter into discussions with the State Historic Preservation Office to minimize this effect.

Curation

Architectural site forms have been filed with the South Carolina Department of Archives and History, with copies provided to the S.C. Department of Natural Resources. Since no archaeological sites were identified, the field notes and photographic materials resulting from these investigations will be maintained by Chicora Foundation, with copies also forwarded to the South Carolina Institute of Archaeology and Anthropology.

NATURAL ENVIRONMENT

Physiography

The project area, in the extreme northwestern corner of South Carolina, is located in Oconee County. The southeastern portion of Oconee, comprising about 42% of its territory, is situated in the Piedmont and is characterized by a well defined dendritic drainage system and rolling topography. Elevations in this area average about 690 feet above mean sea level (AMSL). Moving to the northwest the line of separation between the Piedmont and what are often referred to as the "foothills" is indistinct. The traveler notices that the land is becoming steeper, the roads more winding, and that travel is more difficult. Elevations range from about 780 feet to 2,200 feet AMSL. These foothills comprise about 35% of the county. The division between the foothills and the Blue Ridge Mountains, which comprise the remaining 23% of the county, is more variable. In some areas a change occurs abruptly, while in other areas the shift is more subtle. Regardless, elevations in the Blue Ridge Mountains of Oconee average between 2,200 feet and 3,400 feet AMSL. The project area falls into this last physiographic division.

Oconee County is bordered to the southeast by Anderson County and to the east by Pickens County. On the north it is bordered by North Carolina (Jackson and Transylvania counties), while to the southwest it is bordered by Georgia. The Seneca, Keowee, and Toxaway rivers form the bulk of the county's eastern boundary, while to the northwest is the Chattooga River, creating the boundary between Oconee and Georgia. To the southwest this boundary is created by the Tugaloo River.

The Blue Ridge Province consists of mountains that are the remnants of former highlands that antedate the lower peneplains on either side (Fenneman 1938). In geological terms they are classified as "subdued," indicating that their height and steepness are so far lost that only a relatively thin mantle of decayed rock remains over the underlying bedrock. Talus slopes and bare cliffs, while present, are rare. Summits are commonly rounded and true mountain peaks are infrequent. Compared to ranges such as the Rocky Mountains, the Blue Ridge is not high. Moreover, the climate in the area is far more humid and this has also helped to round the peaks.

Figure 3. View of the survey tract.

The survey tract is situated in an area called the Chattooga Ridge and elevations range from

about 2,500 to nearly 3,100 feet AMSL. Surrounding the area are other ridges or small sections of mountain ranges, with names such as Medlin Mountain, Slattern Ridge, and White Rock Knob. Between are a range of drainages, including Bee Creek, Wilson Creek, White Knob Creek, and — in the survey area — Indian Camp Branch (or creek) and the East Fork of the Chattooga River.

Much of Indian Camp Creek is found bordered by steep topography, or gorge slopes, but at the Walhalla Fish Hatchery their is a opening in the mountains and a small, narrow area of floodplain, where Indian Camp Branch joins with the East Fork of the Chattooga and flows westwardly. It is likely that at one time there was an "Indian Camp" on this floodplain, although extensive twentieth century development has probably destroyed what was once present.

The survey area is situated at the northwestern edge of the floodplain created by the juncture of these two watercourses. Although at first it appears that a portion of the study area is on the floodplain, more careful examination reveals that the flat topography was the result of previous grading. Actually, virtually all of the study area is situated on the edge of a gorge slope. Elevations in the fish hatchery are about 2,400 feet AMSL.

Geology and Soils

The rocks that make up the province include Precambrian granite and gneiss, while to the south there is also a thick layer of late Precambrian sedimentary rocks, consisting of poorly sorted siltstones, sandstones, and conglomerates (Hunt 1967). Elsewhere there are a crystalline schists — metamorphic rocks created during the process of the mountain building. Mills observed that, "stupendous mounts of solid rock rear their everlasting summits in the northern part of this district; and rocks of granite and gneiss are found everywhere" (Mills 1972 [1826]:631).

The project area is characterized by three broad soil associations. The Hayesville-Cecil-Halewood Association consists of moderately shallow to deep, well-drained soils in gently sloping to steep areas, typically with a yellowish-brown subsoil. The Ports-Halewood Association consists of shallow to moderately deep well-drained soils in very steep, rough, broken areas. Here there is a yellowish-brown to dark-brown subsoil. Also present are areas of Talladega-Madison Association. This association consists of excessively drained soils on narrow ridges and on steep to very steep, broken slopes, as well as well drained soils on broad ridgetops and more gentle slopes. In other words, the project area exhibits considerable variation, depending on slope and the nature of the parent material.

Byrd (1963:Map 2) identifies two specific soils in the project area. In the floodplain itself is "local alluvial land." This is a miscellaneous soil type consisting of young, deep, well-drained, fertile soils that have weakly developed soil horizons. They have been deposited in the broad, low, flat depressions at the bases of slopes. New material is constantly being deposited — hence soil horizon development is limited. Byrd (1963:68) notes that there is considerable variation, although there is generally an Ap horizon of up to 1.5 foot consisting of dark brown to very dark brown (10YR4/3 to 10YR2/2) sandy loam or loam. The underlying soils can range from an additional A horizon material to a B horizon. These are the soils which would characterize the southern portion of the Fish Hatchery.

Elsewhere, however, the soils consist of Halewood fine sand loams, typically with slopes of 25 to 40%. Where there is little erosion (areas of 2 to 6% slope) the soil profile consists of about 0.9 foot of yellowish-red (5YR5/6) fine sand loam overlying a B horizon of yellowish-brown (10YR5/6) fine sandy clay loam to about 1.4 foot. Below this the clay content increases (Byrd 1963:59-61). As the slopes increase, the horizons become less distinct and the overall profile depth is more shallow, the result of erosion.

In spite of the exceptional slopes found in the region, Lowry (1934) notes that there is little erosion in this portion of Oconee County. The stability of the soils is largely the result of very limited cultivation in the region, with farming typically confined to the flat bottomlands. There just wasn't much of an opportunity for erosion since so little of the land was accessible. Erosion has actually increased in the twentieth century as many tracts began to be logged.

Historically, Mills observed that the soils in this region were of various types, although generally "thin" and "bottomed mostly on red clay" (Mills 1972 [1826]:673). He also noted that the areas of best cultivation were in the "rich bottom lands" where "wheat Indian corn, cotton, rice, barley, oats, hemp, flax, indigo, buckwheat, Irish and sweet potatoes" were grown (Mills 1972[1826]:674).

Figure 4. Vegetation is the survey area, view to the east.

Climate

Elevation, latitude, and distance from the coast work together to affect the climate of South Carolina. In addition, the more westerly mountains block or moderate many of the cold air masses that flow across the state from west to east. Even the very cold air masses which cross the mountains are warmed somewhat by compression before they descend on the Piedmont and adjacent Sand Hills.

The climate of Oconee, however, is divided into two belts. In the study area (and much of the more northern portion of the county), the climate is affected by the higher elevations. Rainfall is greater and generally well distributed throughout the year. Winters are cold, with an average temperature of 39°F and the summers are mild, with an average of 71°F. The growing season averages about 189 days (Byrd 1963:83).

Mills described the climate as "one of the best in United States, and equal to any in the world" noting that the temperature was "seldom below 18° in winter, and that for only a few days; in summer it never is over 90° to 97°; and this lasts only for about ten days in the early part of July" (Mills 1972 [1826]:677). Mills was likely speaking of Pendleton, which is further to the southeast, in the upper Piedmont. In the project area the summer temperatures rarely reach the 90s.

Floristics

The natural vegetation of the project area is classified by Braun (1950) as the Southern Appalachians of the Oak-Chestnut Forest Region. Braun notes that because of the diversity in topography and range in altitude, there "are great differences in forest vegetation" (Braun 1950:196). She observes that many classify the vegetation into three distinct categories: moist slope and cove, dry slope and ridge, and spruce forests. Barry (1980) recognizes this diversity and proposes a range of vegetative types, including riverbanks and alder zones, floodplain forests, mixed mesophytic forests - cove segregates, mixed mesophytic forests - slope segregates, ridgetops and upland oak forests, pine forests, and rock communities.

In the study area there seem to be remnants of at least two of these — the floodplain forest and mixed mesophytic forest - slope segregate. In the lower elevations, largely taken over by the fish hatchery, there

are both conifers and hardwoods. The conifers include a few shortleaf pine and white pine, as well as a number of hemlock. The hardwoods include sweetgum and red maple. As Barry (1980:28) observes, these forests are often dramatically altered by years of logging and agriculture. As you move up the slopes the floodplain forest is replaced by the mixed mesophytic forest-slope segregate. Here the hemlock declines and is replaced by hardwoods such as hickory and oak. Other canopy trees include black gum, white ash, red maple, and beech.. The understory tends to be dominated by dogwood, sourwood, and black locust (Barry 1980:35).

While Mills didn't point out the variation in Pendletdon district and associate it with topography or elevation, he did note the number of different types of trees present (Mills 1972 [1826]:682). He also noted the range of fruit trees being grown in the first quarter of the nineteenth century, including apple, peach, pear, cherry, plum, and quince. Even grapes were being grown in the lower elevations.

Today, much of the vegetation around the Fish Hatchery has been affected by the site management. The upper slopes are probably least affected, but the floodplain has been extensively altered by the creation of the hatchery, the pumping station to provide water to the rearing tanks, and the access road into the facility. Even the slopes have been altered to some minor degree by the creation of the septic tank field — which is today becoming overgrown with plants characteristic of disturbed habitats. The area to the west of the survey tract appears to have been extensively graded, and today this area is dominated by grass, while on the periphery there are a number of fish burial sites, also dominated by plants associated with disturbed areas. The side slopes have very little understory vegetation and movement is, in general very easy.

PREHISTORIC AND HISTORIC BACKGROUND

Prehistoric Overview

Overviews for South Carolina's prehistory, while of differing lengths and complexity, are available in virtually every compliance report prepared. There are, in addition, some "classic" sources well worth attention, such as Joffre Coe's *Formative Cultures* (Coe 1964), as well as some new general overviews (such as Sassaman et al. 1990 and Goodyear and Hanson 1989). Also extremely helpful, perhaps even essential, are a handful of recent local synthetic statements, such as that offered by Sassaman and Anderson (1994) for the Middle and Late Archaic and by Anderson et al. (1992b) for the Paleoindian and Early Archaic. Only a few of the many sources are included in this study, but they should be adequate to give the reader a "feel" for the area and help establish a context for the various sites identified in the study areas. For those desiring a more general synthesis, perhaps the most readable and well balanced is that offered by Judith Bense (1994), *Archaeology of the Southeastern United States: Paleoindian to World War I.* Figure 5 offers a generalized view of South Carolina's cultural periods.

Paleoindian Period

The Paleoindian Period, most commonly dated from about 12,000 to 10,000 B.P., is evidenced by basally thinned, side-notch projectile points; fluted, lanceolate projectile points, side scrapers, end scrapers; and drills (Coe 1964; Michie 1977; Williams 1965).

The Paleoindian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented toward the exploitation of now extinct mega-fauna" (Michie 1977:124). Survey data for Paleoindian tools, most notably fluted points, is somewhat dated, but has been summarized by Charles and Michie 1992). They reveal a widespread distribution across the state (see also Anderson 1992b:Figure 5.1) with at least several concentrations relating to intensity of collector activity.

Distinctive projectile points include lanceolates such as Clovis, Dalton, perhaps the Hardaway, and Big Sandy (Coe 1964; Phelps 1983; Oliver 1985). A temporal sequence of Paleoindian projectile points was proposed by Williams (1965:24-51), but according to Phelps (1983:18) there is little stratigraphic or chronometric evidence for it. While this is certainly true, a number of authors, such as Anderson (1992a) and Oliver (1985) have assembled impressive data sets. We are inclined to believe that while often not conclusively proven by stratigraphic excavations (and such proof may be an unreasonable expectation), there is a large body of circumstantial evidence. The weight of this evidence tends to provide considerable support.

Unfortunately, relatively little is known about Paleoindian subsistence strategies, settlement systems, or social organization (see, however, Anderson 1992b for an excellent overview and synthesis of what is known). Generally, archaeologists agree that the Paleoindian groups were at a band level of society, were nomadic, and were both hunters and foragers. While population density, based on isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

Anderson (1992b:32) suggests that the comparatively low density of Paleoindian diagnostics in South Carolina may be because the state could have been on the edge of the ranges of groups centered in other areas. He suggests that permanent settlements elsewhere probably occurred later in the Paleoindian period, only when population levels had grown appreciably in these centers. This would help to explain the overlap in stylistic traditions (such as the Clovis, Suwannee, Simpson, and Dalton) observed in South

Carolina which perhaps resulted from populations expanding outwards from these centers.

Archaic Period

The Archaic Period, which dates from 10,000 to 3,000 B.P.[1], does not form a sharp break with the Paleoindian Period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited animal. Archaic period assemblages, exemplified by corner-notched and broad-stemmed projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

Many researchers have reported data suggestive of a noticeable population increase from the Paleoindian into the Early Archaic. This has tentatively been associated with a greater emphasis on foraging. Diagnostic Early Archaic artifacts include the Kirk Corner Notched point. As the climate became hotter and drier than the previous Paleoindian period, resulting in vegetational changes, it also affected settlement patterning as evidenced by a long-term Kirk phase midden deposit at the Hardaway site (Coe 1964:60). This is believed to have been the result of a change in subsistence strategies.

Settlements during the Early Archaic suggest the presence of a few very large, and apparently intensively occupied, sites which can best be considered base camps. Hardaway might be one such site. In addition, there were numerous small sites which produce only a few artifacts — these are the "network of tracks" mentioned by Ward (1983:65). The base camps produce a wide range of artifact types and raw materials which has suggested to many researchers long-term, perhaps seasonal or multi-seasonal, occupation. In contrast, the smaller sites are thought of as special purpose or foraging sites (see Ward 1983:67).

Middle Archaic (8,000 to 6,000 B.P.) diagnostic artifacts include Morrow Mountain, Guilford, Stanly and Halifax projectile points. Much of our best information on the Middle Archaic comes from sites investigated west of the Appalachian Mountains, such as the work by Jeff Chapman and his students in the Little Tennessee River Valley (for a general overview see Chapman 1977, 1985a, 1985b). There is good evidence that Middle Archaic lithic technologies changed dramatically. End scrapers, at times associated with Paleoindian traditions, are discontinued, raw materials tend to reflect the greater use of locally available materials, and mortars are initially introduced. Associated with these technological changes there seem to also be some significant cultural modifications. Prepared burials begin to more commonly occur and storage pits are identified. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and the Carolinas, where axes, choppers, and ground and polished stone tools are very rare.

The Late Archaic, usually dated from 6,000 to 3,000 or 4,000 B.P., is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued to intensively exploit the uplands much like earlier Archaic

[1] The terminal point for the Archaic is no clearer than that for the Paleoindian and many researchers suggest a terminal date of 4,000 B.P. rather than 3,000 B.P. There is also the question of whether ceramics, such as the fiber-tempered Stallings ware, will be included as Archaic, or will be included with the Woodland. Oliver, for example, argues that the inclusion of ceramics with Late Archaic attributes "complicates and confuses classification and interpretation needlessly" (Oliver 1981:20). He comments that according to the original definition of the Archaic, it "represents a preceramic horizon" and that "the presence of ceramics provides a convenient marker for separation of the Archaic and Woodland periods (Oliver 1981:21). Others would counter that such an approach ignores cultural continuity and forces an artificial, and perhaps unrealistic, separation. Sassaman and Anderson (1994:38-44), for example, include Stallings and Thom's Creek wares in their discussion of "Late Archaic Pottery." While this issue has been of considerable importance along the Carolina and Georgia coasts, it has never affected the Piedmont, which seems to have embraced pottery far later, well into the conventional Woodland period. The importance of the issue in the Sandhills, unfortunately, is not well known.

Date	Period	Cultural Phase: Piedmont	Cultural Phase: South Appalachia
1700 -			
	Protohistoric	Oldtown	Qualla
1600			
	Mississippian	Pee Dee	
		Lamar	
			Pisgah
1200		Etowah	
		Napier	
		Uwharrie	
			Connestee
A.D.			
0		Cartersville	
B.C.	**Woodland**	Yadkin	
			Pigeon
		Dunlap	
		Badin	
			Swannanoa
200			
	Late Archaic		
		Savannah River	
4000			
		Guilford/MALA	
	Middle Archaic	Morrow Mountain	
		Stanly	
6000			
		Bifurcate	
	Early Archaic	Palmer/Kirk	
		Dalton	
8000			
		Simpson/Suwannee	
	Paleoindian	Clovis	

Figure 5. Generalized cultural periods for South Carolina.

groups with, the bulk of our data for this period coming from the Uwharrie region in North Carolina.

In addition to the presence of Savannah River points, the Late Archaic also witnessed the introduction of steatite vessels (see Coe 1964:112-113; Sassaman 1993), polished and pecked stone artifacts, and grinding stones. Some also include the introduction of fiber-tempered pottery about 4000 B.P. in the Late Archaic (for a discussion see Sassaman and Anderson 1994:38-44). This innovation is of special importance along the Georgia and South Carolina coasts, but seems to have had only minimal impact in the uplands of South or North Carolina.

There is evidence that during the Late Archaic the climate began to approximate modern climatic conditions. Rainfall increased resulting in a more lush vegetation pattern. The pollen record indicates an increase in pine which reduced the oak-hickory nut masts which previously were so widespread. This change probably affected settlement patterning since nut masts were now more isolated and concentrated. From research in the Savannah River valley near Aiken, South Carolina, Sassaman has found considerable diversity in Late Archaic site types with sites occurring in virtually every upland environmental zone. He suggests that this more complex settlement pattern evolved from an increasingly complex socio-economic system. While it is unlikely that this model can be simply transferred to the Sandhills of South Carolina without an extensive review of site data and micro-environmental data, it does demonstrate one approach to understanding the transition from Archaic to Woodland.

Woodland Period

The Woodland period begins, by definition, with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast and much later in the Carolina Piedmont, about 500 B.C. Regardless, the period from 2000 to 500 B.C. was a period of tremendous change.

The subsistence economy during this period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish. Various calculations of the probable yield of deer, fish, and other food sources identified from some coastal sites indicate that sedentary life was not only possible, but probable. Further inland it seems likely that many Native American groups continued the previous established patterns of band mobility. These frequent moves would allow the groups to take advantage of various seasonal resources, such as shad and sturgeon in the spring, nut masts in the fall, and turkeys during the winter.

Early Woodland

Brooks and Hanson (1987) noted significant changes in the density and distribution of upland tributary sites during the Woodland period in the Steel Creek area of the Savannah River Plant. Brooks proposed that as tributary associated habitats became more productive with floodplain maturation that upland tributary terraces became areas of more permanent occupation. For the Savannah River area, the data suggested to Brooks that annual settlement ranges in the Early Woodland period were restricted to tributary watersheds (Sassaman et al. 1990:315).

Artifacts typical of the Early Woodland in the Piedmont and Appalachian region consist of Dunlap and Swannanoa ceramics (similar to the Kellog focus of Northern Georgia). The Dunlap series is characterized by a medium to coarse sand paste, fabric impressions, and vessels with a simple jar or cup form. The Swannanoa ceramics, with heavy crushed quartz temper, are cord marked or fabric impressed conoidal jars and simple bowls. Other surface treatments consist of simple stamping, check stamping, and smoothed plain (Keel 1976:230). Early Woodland projectile point types consist of Savannah River Stemmed (and its variants) and Swannanoa Stemmed.

Land use during the Early Woodland period in the area suggests extensive use of the inter-riverine zone. Two sites (one in Greenville County and one in Laurens County) contained dense remains and were located on the south face of a slope adjacent to springs. Goodyear et al. (1979:230) suggest that these sites "reflect a fall-winter occupation period with subsistence activities primarily related to nut gathering and deer hunting. If these two sites in fact represent fall-winter

base camps it would represent a strong break with previous Archaic systems and their settlement strategies for exploiting inter-riverine biotic resources". Based on these previous studies, Early Woodland sites are most likely to be found adjacent to springs or the upland terraces of tributaries.

Middle Woodland

The Middle Woodland period is found "virtually lacking" in the Laurens-Anderson inter-riverine zone to the southeast. One densely occupied site in adjacent Laurens County was found in an unusually large floodplain of a rank 2 stream. Goodyear et al. state that:

> [g]iven the habitation like character of this site, plus the large number of simple stamped bearing floodplain sites along larger streams such as the Reedy River, it is tempting to see agriculture playing a role in the apparent re-orientation to flood-plain environments during the middle Woodland period in the Piedmont environment. In this regard, the middle Woodland period sites and their locations would seem to presage the late prehistoric Mississippian period pattern during the latter, where large agriculturally related villages were constructed along fertile stretches of floodplain (Goodyear et al. 1979:230-231).

This new pattern is also reflected in the Savannah River Valley where Savannah terrace sites at the mouth of Upper Three Runs Creek were being occupied again for intensive settlement. Midden accumulations at several sites indicate long term occupation or repeated occupations of these sites by relatively large groups (Sassaman et al. 1990:315).

Pottery typical of the Middle Woodland in the area consists of the Pigeon and Cartersville series. Pigeon is quartz tempered with surface treatments of check stamping, simple stamping, and brushing. The Cartersville type is characterized by sand or grit paste with the primary surface treatment being cordmarking, although there are also check stamped and simple stamped varieties. The Cartersville series is thought to be closely related to the Deptford series on the Coast. Anderson and Schuldenrein (1985:720) suggest that Cartersville continues well into the Late Woodland period. Projectile points typically found in association with these pottery are the Pigeon Side Notched and Corner Notched types.

Testing at 38LU107 (Wood and Gresham 1981) demonstrated that one of the most intensive occupations of this multicomponent site was during the Middle Woodland period. This site is located on a knoll adjacent to South Rabon Creek, near its confluence with North Rabon Creek. A number of features were encountered including a large, deep pit, post holes, and a stone hearth. This indicated that even sites on plowed knolls can and do produce subsurface features.

Since the Middle Woodland period reflects a new pattern of settlement, questions regarding how quickly this change occurred and how the transition to horticulture affected their material culture should be examined. Clearly, this change did not occur over night and perhaps examination of radiocarbon dates from upland and riverine sites during this transition period will begin to clarify questions regarding change in lifeways.

Late Woodland

Small triangular points which are generally believed to be diagnostic of the Late Woodland and Mississippian periods consisted of 12 examples in the Laurens-Anderson study. Ten of these were manufactured from quartz while the other two where manufactured from either rhyolite or a Piedmont silicate. These projectile points were typed as "Mississippian triangulars" and included what they believed were Uwharrie or Pee Dee Triangular types and the Hamilton Incurvate Triangular type. Napier and Connestee Series pottery are typical Late Woodland types for the Greenville County region. The Napier series is a fine sand tempered ware with fine complicated stamped designs. The Connestee series is a thin walled sand tempered ware with brushed or simple stamped surface decorations. There are also cordmarked, check

stamped, fabric impressed, and plain varieties (Trinkley 1990).

According to Sassaman et al. (1990:317) Late Woodland occupations in the Savannah River Valley consisted of small habitation sites along all available terrace locations of both tributaries and the Savannah River. This increasing use of low-lying terraces suggests the increased exploitation of floodplain habitats, perhaps including maize agriculture, although no direct evidence has yet been found at the Savannah River Site.

Keel (1976) reported on the Garden Creek Mound No. 3 which contained a dominant Connestee component based on George Heye's 1915 examination of the mound. Later work at Garden Creek Mound No. 2 examined a portion of a village with a large quantity of Connestee remains. A number of post holes were exposed revealing one discernable square house with rounded corners measuring about 19 by 19 feet in outline. In addition, there were a number refuse pits and hearths. The hearths included both rock filled and surface hearths. There were also a number of burial pits (see Keel 1976:99; Figure 15). It is likely that Connestee sites in the region will contain similar features.

Mississippian Period

The South Appalachian Mississippian period, from about A.D. 1100 to A.D. 1640 is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease.[2] The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers.

In the Appalachian region, Mississippian pottery includes the Pisgah and Qualla series. Pisgah ceramics are tempered with unmodified river sand, although some earlier examples contain both river sand and crushed quartz. It is decorated with complicated stamping, check stamping and ladder-like rectilinear patterns (Dickens 1970; Holden 1966). It should be noted that the Qualla series extends well into the historic period (ca.1500-1908) and is characterized by complicated stamping and bold incising. Other types described by Egloff (1967) include burnished, plain, check stamped, cord marked, and corncob impressed. At Tuckasegee brushed examples were also identified (Keel 1976). Other artifacts associated with the Mississippian period include triangular projectile points, flake scrapers, microtools, gravers, perforators, drill, ground stone objects (celts, pipes, and discoidals), and worked shell and mica (Keel 1976).

Very little evidence of Mississippian period occupation was found in the Laurens-Anderson interriverine survey area to the southeast which is not surprising given the focus on riverine resources during this time period. Very little evidence of Mississippian occupation has been documented at the Savannah River Plant and no formal settlement-subsistence model has been created for this area (Sassaman et al. 1990:317). However, Anderson (1994) has provided a detailed examination of evidence for political change at Mississippian sites in the Savannah River Valley and should be consulted for more information.

Excavations at large Mississippian sites in the Upper Piedmont include work at the I.C. Few site which was examined as a part of the Keowee-Toxaway Reservoir project sponsored by Duke Power Company (Grange 1972). Simpson's Field (38AN8) on the Savannah River was also investigated during the Richard B. Russell Reservoir studies (Wood et al. 1986). Work at the Chauga site (38OC47) in Oconee County evidenced occupation in the Early and Late Mississippian period. Ten stages of mound building were found at the site along with burials and palisades. There is evidence for increasing impoverishment of the residents through time, since burials associated with the latest phases of mound building contained fewer grave goods than earlier phases in both the occupation during the Early Mississippian and the Late Mississippian (Anderson 1994:303-305). Homes Hogue Wilson (1986) examined burials from the Warren Wilson site in western North Carolina and provided some preliminary conclusions regarding social structure based

[2] Small pox was a major cause of death to a large number of Native Americans during the historic period. The smallpox epidemics of 1734 and 1783 reportedly killed half of the Cherokee population (Hatley 1993).

on location of burials according to age and sex. For instance, she found more males than females were buried under structure floors. These males included primarily those under 25 or over 35 years old. She also found that individuals buried inside of structures were more likely to have burial goods than those buried in public areas. Burial feature types included pit burials, side-chambered burials, and central-chambered burials. Studies such as this can give great insight into the social organization of prehistoric societies.

A number of mounds have been documented in Greenville County to the southeast. Laura M. Bragg (1918) reported on a mound at "Caldwell Plantation" measuring about 40 feet in diameter and five feet in height. The mound was trenched through the center, finding evidence of hearths at the apex, beneath of which was human remains, sassafras wood, soapstone and slate pipes, and a polished celt. A second mound, located off of Buncombe Road between Greenville, South Carolina and Hendersonville, North Carolina was also examined. The mound was 100 feet in diameter and about 15 feet high. In addition to Indian artifacts, several slave burials were inadvertently disturbed. The investigators excavated a 15 foot square through the apex of the mound and then "a passage out to the east side". These excavations found evidence of six construction layers. J. Walter Fewkes also made collections from mounds in the Greenville area although nothing is known about their context (UGA 1969).

A.S. Rowell (Rowell n.d.) reported a cave site to Laura Bragg which may have been occupied by Indians familiar with agriculture. The site was about 14 miles from Piedmont, South Carolina on the banks of the Reedy River. The cave was about two feet high and five feet deep with a small level area in front of it. On one side of the opening was a "square block which a mortar for grinding corn had been worked out" (Rowell n.d.).[3]

The largest amount of regional work has taken place in the North Carolina mountains at sites such as Tuckasegee, Garden Creek, and Warren Wilson. At Tuckasegee a possible town house was uncovered measuring about 23 feet in diameter with a central hearth (Keel 1976). At Warren Wilson several roughly square structures were uncovered and they all measured on the average about 21 feet square. Burials were common inside of these houses and pit features were abundant. Artifacts at the Warren Wilson site included ceramics from the Swannanoa series up through the Pisgah series. (Dickens 1970).

Historic Indians

Fogelson and Kutsche (1961:88-89) describe the lands of the Lower Cherokee as "comparatively flat lands on the banks of the Tugaloo and Keowee Rivers and their branches in what is now northwestern South Carolina". Because of the advancement of the white frontier, there was a great deal of intertribal strife and boundary rearrangements precipitated by the dislocation of tribes east of the Cherokee. With direct contact with the white pioneers war ensued and a number of Cherokee villages were destroyed. Both war and disease reduced the population dramatically.

Swanton (1952) lists a number of Lower Cherokee towns in the upstate in Oconee and Pickens counties and Sheriff (1991) and her elementary school students compiled data from various accounts and maps providing composite descriptions of various Lower Cherokee towns in South Carolina. Mooney (1928) estimates that the total Cherokee population was about 22,000 in 1650. He states that in 1715 the Lower Cherokee had a population of about 2,100, although Swanton (1952:223) believes that this estimate is too low. In 1755, estimates for North Carolina gave five divisions of the tribe with a total of 2,590 people. They were forced further west, removing them from the area by 1838 although a few remained in the mountains as refugees until 1842. The Qualla Reservation in western North Carolina was set up for them at this time where a number continue to remain. A 1930s estimate placed the North Carolina population at 1,963 (Swanton 1952:223).

Historically, the Lower Cherokee used the western Piedmont of South Carolina as a hunting territory. The eastern limits of this hunting territory were defined by the presence of the Catawba Indians.

[3] This "square block" also may have been used for processing nuts -- or it could have been natural.

According to Logan (1859) there was a common hunting ground between the Lower Cherokee and the Catawba Indians which encompassed the districts of Richland, Fairfield, Chester, and York. Hatley (1993) states that the Cherokee hunting grounds had been modified by years of purposeful intervention and some of the most productive hunting areas were the old fields and planting lands. "These patches — soil licks, sand ridges, canebrakes, and old fields, maintained in a sere of young growth by light burning — provided a habitat where deer could predictably be found" (Hatley 1993:212).

Goodyear et al. (1979) suggest that a translucent "Ridge and Valley"-like chert is the result of late prehistoric and/or Cherokee activities.[4] In looking for an archaeological correlation, they found that these translucent "Ridge and Valley"-like cherts are mainly restricted to piedmont counties west of the Broad River.

The settlement pattern for the village sites and individual house sites was at the base of hills adjacent to tillable land and sources of fresh water. If arable land was abundant, houses would sometimes be clustered in the middle of fields (Fogelson and Kutsche 1961:90). The seasonal planting cycle seems to have strongly affected the rhythm of eighteenth century Cherokee life. Small hunting parties went out from late October to the early spring, with shorter hunting trips during the summer (Gearing 1958:1150). Often, these summer hunting forays took place only after the corn was planted and before it was ready to be harvested (Fogelson and Kutsche 1961).

Bartram describes their pattern of settlement:

> An Indian town is generally so situated, as to be convenient for procuring game, secure from sudden invasion, having a large district of excellent arable land adjoining, or in its vicinity, if possible on an isthmus betwixt two waters, or where the doubling of a river forms a peninsula. . . . At other times however they choose such a convenient fertile spot at some distance from their town, when circumstances will not admit of having both together (Bartram 1928 [1791]:400-401).

Artifacts associated with the historic Cherokee include the previously discussed Qualla ceramic type. It should be noted that Egloff (1967:68-75) argues that there is marked variation in Qualla ceramics between the Georgia and South Carolina towns, the North Carolina towns, and the Tennessee towns. This argument was later bolstered by evidence from Tuckasegee (Keel 1976). In addition to Qualla ceramics, small triangular projectile points are also typical, as well as evidence of European interaction.

The Cherokee town of Tomassee (38OC186), situated on a terrace overlooking Tamassee Creek in Oconee County, was tested to evaluate the condition of the site following deep plowing and vandalism by pothunters (Smith et al. 1988). The work identified the presence of an eighteenth century Cherokee occupation. Fortunately, the south half of the site remains in pasture and the landowner has agreed to cease deep plowing on the presently disturbed portion of the site. A number of pit features dating to the Cherokee occupation were uncovered and excavated. Posts associated with a rectangular or square structure measuring at least 20 feet on one side were identified. In addition, there were two historic Cherokee burials. One infant burial was accompanied by a necklace of 121 small, wire wound barley corn beads and two pairs of silver ball and cone earrings, one pair in each ear. They believe that these kinds of grave goods place the date of the burial after circa 1750 (Smith et al. 1988:42). An extended adult burial was also located which contained 12 metal buttons (Smith et al. 1988:44).

Work at Estatoe (38OC47) by Miller (1959) and Kelly and de Baillou (1960) indicates that the mound had a series of building levels. A series of structures was built on the apex with a central fire pit. The final mound construction is believed to be contemporary with the final phases of construction at Tugalo and Chauga. The Estatoe site is located on the

[4] Goodyear et al. (1979) provide no firm statement as to whether or not the chert is indeed Ridge and Valley.

west bend of the Tugaloo River on a slight ridge and is contained by a large bend in the river (Egloff 1967:7). The Chauga site (38OC1), however, does not appear to date as far into the protohistoric period as Estatoe (Egloff 1967).

In the past Gerald Schroedl and Brett Riggs have held archaeological field schools at the Chattooga Site in Oconee County. They located house sites as well as the council house during the first season of investigations. Work during the second season focused on the excavation of the council house. These excavations revealed a portion of the exterior wall, interior benches, and central floor. Datable artifacts at the site places the structures use between about 1720 and 1740. The floorplan of the council house was found to be comparable to those found at mid eighteenth century Overhill Cherokee townhouses (Schroedl and Riggs 1990a, 1990b).

Qualla phase ceramics were also predominant at the Tuckasegee site in North Carolina. Here, no dwelling houses were excavated, but a townhouse was uncovered. The circular townhouse was 23 feet in diameter with a central hearth. A.R. Kelly and R.S. Neitzel (1961:24) describe a similar hearth from the Chauga site in Oconee County which belonged to historic Cherokee. This hearth was believed to have ceremonial implications (Keel 1976).

Michael Harmon (1986) has reviewed historic Cherokee sites inundated by the Keowee-Toxaway Reservoir. The work done here in the late 1960s was a salvage project rather than a cultural resource management project and, therefore, did not obtain any detailed data on the sites investigated. Nonetheless, of the 39 sites investigated, ten contained evidence of eighteenth century Lower Cherokee occupation through the presence of Qualla ceramics and eighteenth century European ceramics on the same site. Harmon's emphasis was the examination of the use of European artifacts in Cherokee culture rather than the geographic settings of these sites. However, this has previously been discussed through Bartram's accounts and other works (e.g. Beuschel 1976; Kelly and de Baillou 1960; Smith et al. 1988) and applies to the Keowee-Toxaway sites.

Historic Synthesis

Oconee County's early history is the history of the Cherokee (for more detailed information see Hatley 1993 and Trinkley et al. 1995:23-39).Mills observed that, "previous to the treaty with the Cherokee Indians, made by Governer Glen in 1755, few or no emigrations extended as high up the country, as where Pendleton district is now located" (Mills 1972 [1826]:671). Shortly after the treaty, the area was gradually opened, although settlement tended to be focused on the southern boundary. Even as late as 1769 the Indian Boundary Line excluded the northwest corner of the state, excluding what would become Pendleton and Greenville districts.

During the American Revolution the Cherokee became pawns in the hands of the upcountry whigs and loyalists. The old voices of colonial manifest destiny were united with the whig philosophy of freedom and independence and an effort was advanced to remove the Indian threat. To achieve their goals the whigs quickly devised an intercolonial campaign with troops from several colonies penetrating the tribal territory for the purpose of destroying the Cherokee. As in the past, the campaign was marred by poor planning, poor coordination, and poor leadership, but it did succeed in seriously damaging the Cherokee landscape, with one participant noting that the Cherokee "were reduced to a state of the most deplorable and wretched being often obliged to subsist on insects and reptiles of every kind" (Hatley 1993:195). Soconee, Keowee, Sugar Town, Estatoe, Tugaloo, Tamassee, Cheowee, and Eustaste were burned and fields full of crops were destroyed.

The Cherokees were to face at least seven major offensives before the Revolutionary War was over. (Milling 1969:320-321). Each attack was similar to the previous and eventually the Cherokee will was broken. With only a handful of intact settlements intact and many of her people starving, the Cherokees sued for peace, signing two separate treaties. The first was signed on May 20, 1777 at DeWitt's Corners. Here the Cherokee surrendered nearly all their remaining territory in South Carolina, including the present counties of Greenville, Anderson, Pickens, and Oconee. The Indians, however, were permitted to remain in the ceded Indian territory, "by political indulgence" and it is

clear that they began to rebuild a number of their Lower Towns in Oconee County (Milling 1969:319). A second treaty was signed on July 20, 1777 at the Long Island of the Holston. Here the Cherokee ceded everything they possessed east of the Blue Ridge, fulfilling the colonial South Carolina lust for land and driving the Cherokees (at least on paper) "beyond the mountains."

This opened the flood-gates of settlement. While there continued to be conflicts with the Cherokees through about 1792, these did little to slow down the settlement of Carolina's new frontier. In 1798 Pendleton became an independent judicial district and in 1826 it was further divided between Pickens (to the north) and Anderson (to the south), with modern Oconee County contained within Pickens. The Cherokee sold their last remaining South Carolina land in what is today Oconee in 1816 (Holder 1991:1).

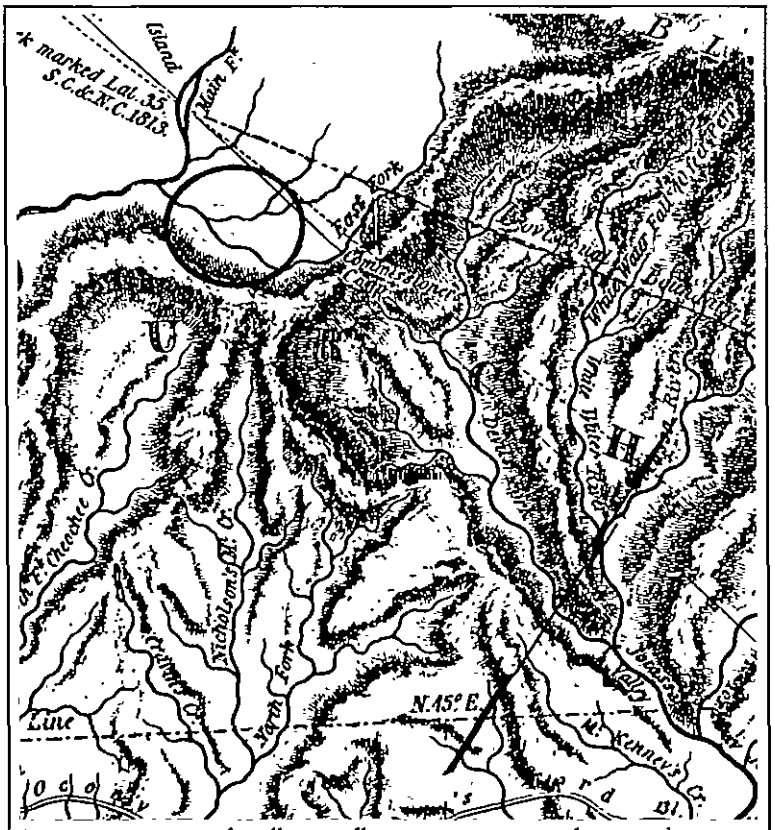

Figure 6. Portion of Mills' Pendleton District map showing the project area.

By 1826 Mills noted that Pendleton was "an agricultural district, in the true sense of the term" (Mills 1972 [1826]:683). The area consisted of small farms, largely planting subsistence crops. This is at least partially reflected by the 1810 census, when there were 19,364 whites and only 3,485 African American slaves (the latter representing about 15% of the population). By 1830 the percentage of slaves had grown, but the district (by then known as Pickens) was still predominated by small farms. There were 11,607 whites and 2,869 slaves.

Figure 6 shows the portion of Mills' map of Pendleton District covering the project area. Although the East Fork is shown, Indian Camp Creek is not. In fact, the entire area is blank (as is much of the region), a clear indication that settlement was not only slow in the region, but that Mills found few small farmers willing to subscribe to his *Atlas*.

On the eve of the Civil War, the 1860 census reported that 22% of the 19,639 residents were African American slaves. Of the 529 slaveholders in the district, just over a fifth of these held only one slave and nearly 93% held 10 or fewer slaves. There were 1301 farms in Pickens District. While there were 10 farms between 500 and 1,000 acres (there were none over 1,000 acres), the average size was only about 86 acres. The agricultural production of the region was dominated by wheat, corn, and sweet potatoes, with tobacco being only significant cash crop. Only 939 bales of cotton were produced in 1859, placing Pickens third lowest in production, ahead of only Georgetown and Horry districts. While farmers elsewhere sought out the railroad as a means of more cheaply getting crops (especially cash crops) the markets, the Blue Ridge Railroad, originally conceived to connect Charleston to the deep interior, never reached further than Walhalla.

The Civil War had relatively little impact on the farmers in the Oconee County area and even after the war, the region remained rural and dominated by

small farms. Oconee was divided from Pickens by the 1868 constitution.

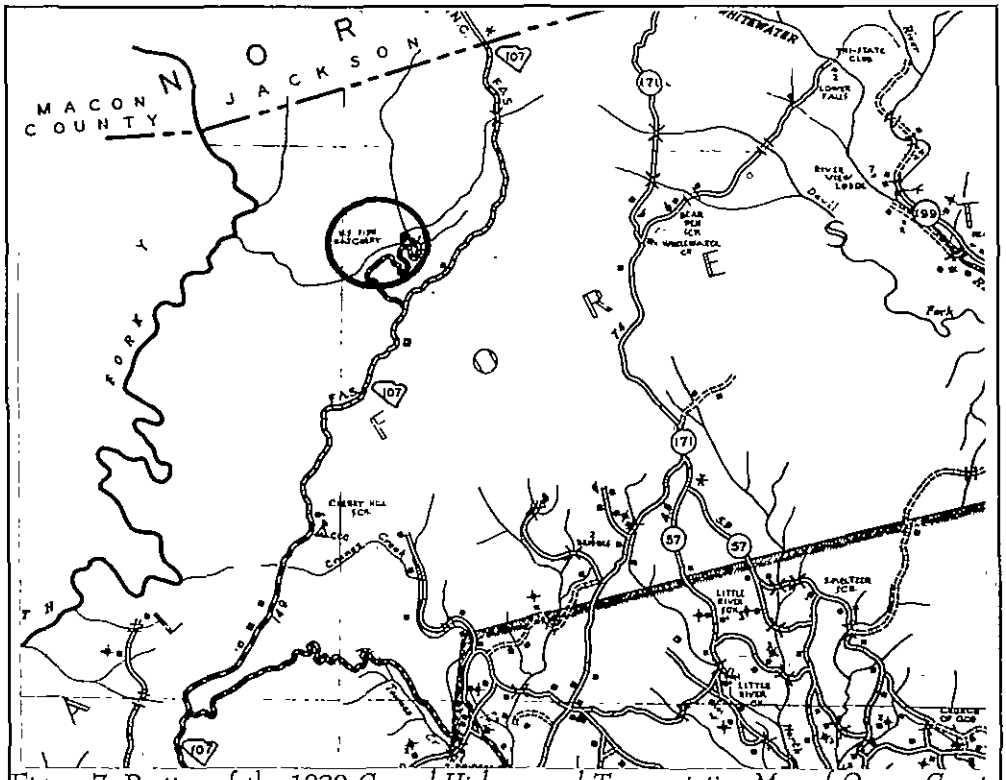

Figure 7. Portion of the 1939 *General Highway and Transportation Map of Oconee County* showing the project area.

In 1884 there were 300 farms worked by whites, averaging about 50 acres in size, while there were about 100 farms worked by African Americans and these farms were about 30 acres on average. It was noted that, "the general practice of farmers in the county is to raise their own supplies in bread and meat, cotton being only raised as a surplus (Anonymous 1884). The 19 gins in the county yielded about 2,500 bales of cotton — a dramatic increase from the antebellum, but still small compared to elsewhere in the state.

The Air Line Railroad (now called the Southern Railroad) was built through Oconee in the 1870s, helping to create the towns of Seneca and Westminister. Other railroad towns, such as Fort Madison and Richland, did not survive the initial enthusiasm and have disappeared. Textiles came into the region by the 1890s (Holder 1991:2).

By 1900 there were 3,249 farms in Oconee County, averaging 102.5 acres in size (although the majority were between 20 and 50 acres). About 77% of these were operated by whites, with the remaining 23% in the hands of African Americans. Of the white farms, two-fifths were owned, and just over a 47% were operated by share croppers. Of those farms operated by African Americans, only 10% were owner-operated and over three-quarters were operated by share croppers. The agricultural census continues to reveal a relatively diversified range of crops. In addition, cotton was gradually becoming more important, with a production of just over 9,500 bales in 1899. This placed Oconee fifth from the bottom, ahead of Horry, Georgetown, Dorchester, and Charleston counties.

By the 1930s the region was evidencing early signs of the Depression. There were 4,438 farms reported, with an average size of 56 acres, down from 64 acres in 1920. A total of 97,579 acres were held by owners, while an additional 138,753 were tilled by tenants. Ownership had declined from 1,526 in 1920 to 1,344 in 1930, while the number of tenants increased from 2,093 in 1920 to 2,944 in 1930. Edgar observes that, "local agencies could not cope with the magnitude of the worsening crisis. Seventeen counties [including Oconee] had an unemployment rate of greater than 30 percent" (Edgar 1998:500).

Two programs were of special importance to

Oconee County. The Civilian Conservation Corps (CCC) was a vastly popular program which involved young men between 17 and 25. They were allowed to participate for six-month stints for up to 2 years. Participants received $30 a month, of which $22 was sent home to their parents. By 1939 nearly 50,000 South Carolinians had been CCC workers stationed at 30 camps scattered across the state — including one only about 5 miles south of the Fish Hatchery on SC 107. The CCC was responsible for a variety of conservation-oriented projects, including the development of the state park system (Edgar 1998:502). An equally popular program was the Works Progress Administration (WPA). This agency employed individuals to build highways, bridges, schools, water and sewer systems, and other hardscape features.

As late as 1939 this section of Oconee County continued to be sparsely settled. Figure 7 reveals that the National Forest had incorporated huge tracts of timber in an area of few settlements. The CCC camp is shown south of the Fish Hatchery, but otherwise, there will little activity in the region.

A Brief History of the Walhalla Fish Hatchery

In 1935 the State of South Carolina and Oconee County purchased about 94 acres of land from the Whitewater River Lumber Company and deeded the property to the United States Government for the purpose of "Fish Culture Stations and Rearing Pools for the propagation of Fish." This was, however, clearly an arrangement with a much longer history, since the Bureau of Sports Fisheries, Commerce Department, apparently took possession of the site, and was involved in construction, at least by August 1934. At that time the site was known as the Indian Camp Fish Culture Station.

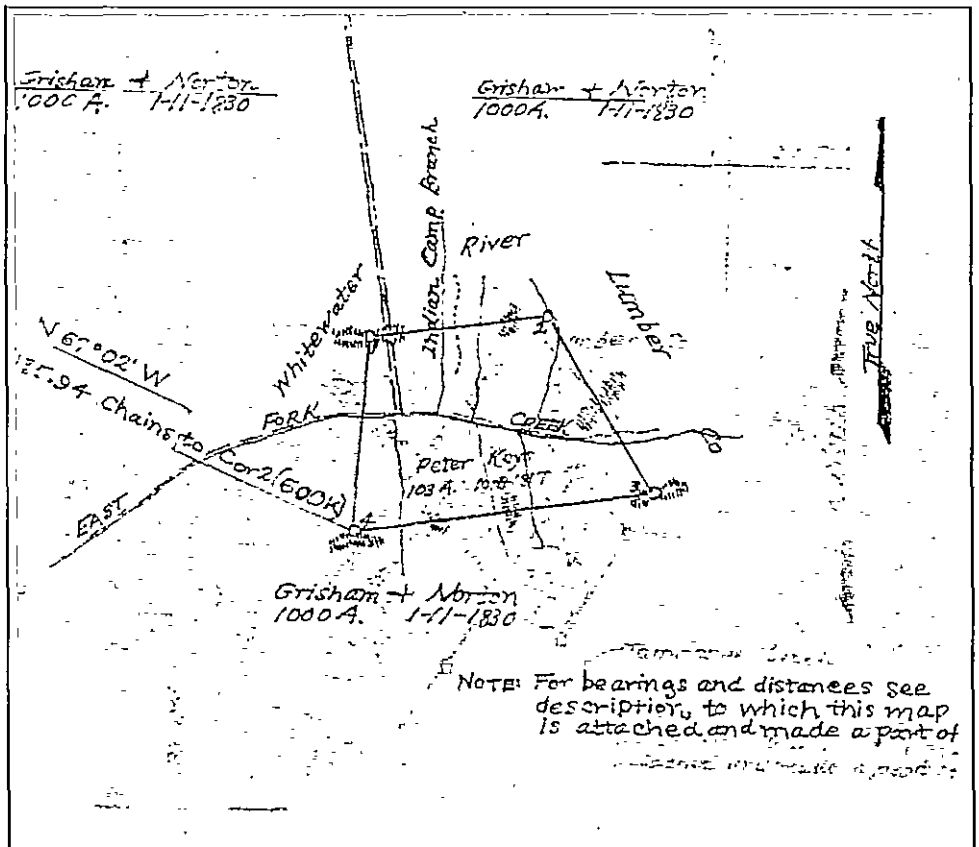

Figure 8. Plat of the 94 acres conveyed by the Whitewater River Lumber Co. in 1935.

Information provided by the S.C. Department of Natural Resources reveals that the property could be traced back at least to a February 4, 1828 grant to Peter Keys. A plat of that property, made in 1934, fails to shown any development on the tract (Figure 8), although given the nature of the terrain, it seems likely that any settlement undertaken by Keys or his descendants would have been in the vicinity of the fish hatchery.

Regardless, a brief station history is provided by the 1945 *Bureau of Sports Fisheries Annual Report*, which reveals that the fish hatchery,

also known as the Chattooga Fish Hatchery, was constructed through the cooperation of the Bureau of Fisheries, the Forest Service, and the WPA. The hatchery was completed by 1937 and the first production of fish was in the fall of 1937.

It was truly a cooperative effort. The Forest Service provided the phone service for the hatchery in exchange for notification of forest fires. In addition, the Forest Service also acquired the watershed of Indian Camp Creek in order to ensure a clear supply of water, as well as graded the 1.8 miles of road into the hatchery. In 1946 the Forest Service acquired an additional 20,000 acres of land, completely surrounding the fish hatchery site.

The buildings at the site were constructed by combined CCC and WPA work crews, perhaps stationed at the camp to the south (see Figure 7). The constructed buildings included:

> The hatchery building is single story with attic, concrete floor except for office, stone construction, native hewn boards on roof. 36 ft. - 8 in. By 81 ft. - 1 in. Long. Contains office room, meat room, toilet and hatchery with full attic. Cost $10,000. Value $10,000. 1937.
>
> The shop-garage is single story, frame, rough edge unfinished stained clap-board siding, sawed cypress shingle roof, 60'6" x 32'6", concrete floor throughout, contains space for two trucks and work shop. Cost $3,000. Value $3,000. Built 1937.
>
> Quarters No. 1, superintendent's residence, 1½ story, frame, rough edge unfinished stained clap-board siding, native hand hewn boards on roof, front and back porches with rock floors, full basement with concrete floor and rock wall foundation sides, five rooms and bath with tile floor downstairs and two large attic rooms upstairs, soft pine floors throughout, interior finish of white pine with clear shellac and varnish, except bathroom and kitchen which are painted. 38' x 25'. Cost $8,000. Value $8,000. Built 1937.
>
> Quarters No. 2, fish culturist's residence, single story, frame, rough edge unfinished stained clap-board siding, sawed cedar shingles on roof, front and back porches with rock floors, rock foundation, four rooms and bath, soft pine floors, interior finish of white pine with clear shellac and varnish, except bathroom which is painted. 37' x 25'. Cost $4,500.00. Value $4,500.00. Built 1937.
>
> Quarters No. 3, fish culturist's residence, same in every respect as quarters No. 2.
>
> Quarters No. 4, single men's, single story, frame, rough edge unfinished siding, clap-board style, stained, sawed cedar shingles on roof, front and back porches with rock floors, rock foundation, partial basement unfinished, contains kitchen, large dining room and living room, five small bed-rooms, shower bath only, interior finish of white pine dark stained and varnished except kitchen which is painted. 69'6" x 30'. Cost $6,000.00. Value $6,000.00. Built 1937.

During the 1950s the original round fish rearing tanks were replaced by the three rectangular tanks currently in place. In the 1960s an additional office and shop were constructed and, in 1994, public restrooms were installed in the hatchery area. In 1990 the fish rearing tanks were modified with the addition of an oxygen supplementation system.

In 1996 the Walhalla National Fish Hatchery,

described as incorporating 76.2 acres and under the control of the U.S. Fish and Wildlife Service, was conveyed to the State of South Carolina (Public Law 104-265). Since that time the state has either replaced or renewed the septic tank field associated with the public restrooms and is currently involved in the planning of a new education building and visitor's center.

RESEARCH METHODS AND FINDINGS

Introduction

As previously indicated, the primary goals of this survey are to identify, record, and assess the significance of archaeological sites within the proposed building site footprint, staging area, and utility corridor. No major analytical hypotheses were created prior to the field work and data analysis. This research design proposed for this study is fundamentally explorative and explicative.

Field Survey

As previously mentioned, the survey areas were to be staked prior to our survey. Upon arrival at the Fish Hatchery we discovered that the general area had been flagged, but the specific building footprint had not been determined. As a result, instead of needing to survey an area of about 0.2 acre (a 1,800 ft^2 building footprint, an additional 1,800 ft^2 for staging, and a 6,000 ft^2 utility corridor), we were confronted with an area measuring approximately 200 by 120 feet (24,000 ft^2 or about 0.5 acre), plus the utility corridor (6,000 ft^2 or about 0.1 acre), for a total of 0.6 acre.

The 0.6 acre tract was examined using a systematic intensive survey methodology that examined the entire acreage for archaeological and historical resources. An archaeological survey was conducted using shovel tests placed at 50 foot intervals on transects also spaced at 50 foot intervals. A series of two transects were established outside the fenced area in the vicinity of the building and staging area, each with a total of five shovel tests. Four shovel tests were excavated within the utility corridor, as a single line of shovel tests at 50 foot intervals. Finally, four additional shovel tests were excavated within the fenced hatchery area, south of the main building site, since the site manager, Mr. Andy Algood, indicated that a deck was proposed to extend into this area.

As a result of this survey 18 shovel tests were excavated in the areas identified to us as involved in the construction activities (Figure 9).

All shovel tests were approximately one-foot square and were excavated to sterile subsoil, usually about 1.0 to 1.5 feet below the surface. All soils were screened through ¼-inch mesh and soil profiles were recorded as appropriate, using Munsell soil colors. All shovel tests were backfilled at the completion of the work.

No deviations of the proposed methodology, other than covering a larger area than proposed, occurred during the investigations.

Results of the Archaeological Survey

The investigation revealed that the area north of the hatchery fence exhibits a slight terrace for about 50 feet, then begins to slope steeply to the north. The southern line of shovel tests were placed north of the fence, but on the terrace. The northern line of shovel tests were placed about 10 feet up the slope. As a result, the shovel tests on the terrace exhibited relatively deep soils, largely resulting from down slope soil erosion. The western-most test on the terrace line, for example, yielded 1.9 feet of dark brown (10YR4/3) loam. Below, to a depth of 2.2 feet (where the shovel test terminated) was a stiff reddish-brown (2.5YR4/4) clay or clay loam. Toward the east end of the transect the depth diminished, so that we found only 1.0 foot of dark brown (10YR4/3) loam over the reddish-brown (2.5YR4/4) clay or clay loam.

Upslope the profiles tended to be more consistent, with about 1.0 foot of dark brown (10YR4/3) to brown (10YR5/3) loam overlying a red (2.5YR4/8) clay.

At the west end a number of recent depressions, some with fresh expose soil, were pointed out to us as fish burial locations. These were excluded

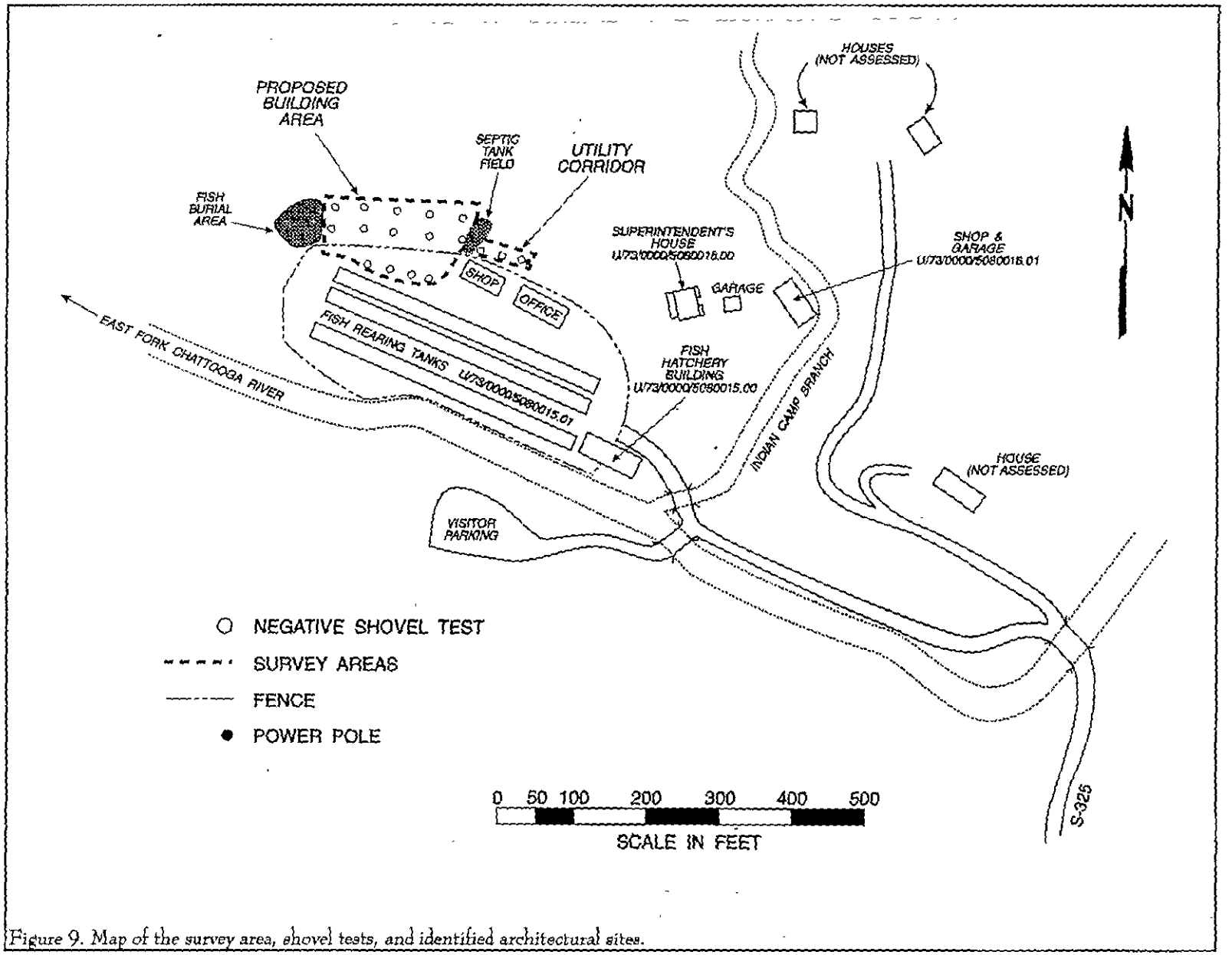

Figure 9. Map of the survey area, shovel tests, and identified architectural sites.

from the survey area. Likewise, at the eastern edge of the building footprint, we noticed an area of extensive brambles and other waste vegetation. This was identified to us as the location of a newly installed septic tank field. A portion of this field was identified in the eastern-most shovel test on the upslope transect, where the profile revealed mixed soils, dominated by orange, red, and brown clays and clay loams from the surface down to the termination of the shovel test at 1.5 feet.

Figure 10. The Fish Hatchery Building, east and north (front) facades.

Within the fenced hatchery area, the tests revealed about 1.0 foot of brown (10YR5/3) loam overlying red (2.5YR4/8) clay. It appears that this area was also just beyond the floodplain and has been graded down during the initial construction. Our shovel tests were revealing both graded areas which have had topsoil added and also slope areas with intact horizons.

None of the shovel tests, however, produced any cultural remains. A few twentieth century items (all likely related to the fish hatchery operation) were observed on the surface, probably from being tossed over the fence. None were collected and the refuse in this area is not adequate to identify the area as trash dump.

Results of the Architectural Survey

During the archaeological investigation we identified two architectural sites within the immediate project area (see Figure 9). Since these resources had not previously been identified, a Statewide Survey Site Form was completed and two or more black-and-white photographs were taken. Control numbers were assigned by the Survey Staff of the S.C. Department of Archives and History. The Site Forms for the two resources newly identified during this study have been submitted to the Department of Archives and History.

Site U/73/0000/5080015.00 consists of the hatchery building, built by WPA and CCC labor in 1937 (Figure 10). The building is 1½ stories of stone construction with a lateral gable roof, now covered with composition shingles. There is a small porch at the main entrance exhibiting diagonal support braces. There is a massive stone chimney on the east exterior end. Attached to the north facade, at the entrance is a brass plaque installed by the CCC:

Fish Propagated -
Brook Trout
Rainbow Trout
Loch Leven Trout

The only alterations to the building are the attachment of a recent electrical line on its east elevation and the use of composition shingles. The building was originally described as:

Figure 11. Superintendent's House, west (front) and south facades.

> The hatchery building is single story with attic, concrete floor except for office, stone construction, native hewn boards on roof. 36 ft. - 8 in. By 81 ft. - 1 in. Long. Contains office room, meat room, toilet and hatchery with full attic. Cost $10,000. Value $10,000. 1937 (Ms. on file, S.C. Department of Natural Resources).

Site U/73/0000/5080015.01 are the concrete fish rearing tanks just west and northwest of the hatchery building. These at-grade rectangular tanks were constructed in the mid-1950s to replace the original circular tanks built by the WPA and CCC workers. Although the loss of these original tanks is regrettable, the existing facilities are intact, with the only modification being the addition of an oxygen supplementation system in 1990. This addition does not dramatically change the appearance or integrity of the rearing tanks.

Site U/73/0000/5080016.00 is the superintendent's house, situated on a hill overlooking the fish hatchery facilities to the southwest (Figure 11). This is a 1½ story frame structure set on a stone foundation and clad in rough sawn weatherboarding. It has a lateral gable roof with three gable dormers across the front and rear. On the gable ends there is picket-fence pattern boards used as a wide band of trim. There is a single gable end stone chimney and a wide porch on the front and smaller porches on the rear. The windows have 2/2 and 2/1 sashes.

This building was originally described by the Bureau of Sports Fisheries as:

> Quarters No. 1, superintendent's residence, 1½ story, frame, rough edge unfinished stained clap-board siding, native hand hewn boards on roof, front and back porches with rock floors, full basement with concrete floor and rock wall foundation sides, five rooms and bath with tile floor downstairs and two large attic rooms upstairs, soft pine floors throughout, interior finish of white pine with clear shellac and varnish, except bathroom and kitchen which are painted. 38' x 25'. Cost $8,000. Value $8,000. Built 1937 (Ms. on file, S.C. Department of Natural Resources).

The alterations on this structure are remarkably limited. The rear porch has been enclosed, but this is not

immediately noticeable. Storm widows have been added and there is what appears to be infill added as railing to the front porch. Some sashes appear to be replaced and the house, rather than being stained, has been painted. Otherwise, it is in excellent condition.

To the rear of this house is the shop garage and a garage, both identified as U/73/0000/5080016.01. The shop-garage was described in 1945 as:

> The shop-garage is single story, frame, rough edge unfinished stained clap-board siding, sawed cypress shingle roof, 60'6" x 32'6", concrete floor throughout, contains space for two trucks and work shop. Cost $3,000. Value $3,000. Built 1937 (Ms. on file, S.C. Department of Natural Resources).

It remains in excellent condition and the only apparent modifications are the addition of roll down bay doors, painting, and a composition shingle roof.

The other garage is probably intended for use by the superintendent. Although it was not mentioned in the 1945 account of buildings, the construction techniques are identical to those found elsewhere on the site. The garage is set on a rough hewn stone foundation and is of rough hewn weatherboard construction. Again, the only apparent modifications are the addition of a roll-down door, painting, and a composition shingle roof.

Site Evaluation

The criteria for eligibility to the National Register of Historic Places is described by 36CFR60.4, which states:

> the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b. that are associated with the lives of persons significant in our past; or
>
> c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d. that have yielded, or may be likely to yield, information important in prehistory or history.

Given the relatively limited data available for the properties, we have focused on evaluating many of these sites using National Register Criterion C, focusing on the site's "distinctive characteristics." Key to this concept is the issue of integrity. This means that the property needs to have retained, essentially intact, its physical identity from the historic period. Given the importance of the WPA and CCC activities to South Carolina and Oconee County, it is also appropriate to evaluate them under Criteria A.

Both of the identified sites at the Walhalla Fish Hatchery are recommended as eligible for the National Register. Further work may identify additional structures at the fish hatchery which are also eligible.

CONCLUSIONS AND RECOMMENDATIONS

The 0.6 acre proposed building tract at the Walhalla Fish Hatchery was investigated using intensive shovel testing. The survey was conducted using transects spaced at 50 feet, with shovel tests excavated at 50 foot intervals along the transects.

The survey tract is located in the northwestern corner of Oconee County in the Blue Ridge physiographic region. The topography in the project area is best described as a gorge edge, with a mixture of features typically found on floodplains and on the steeper side slopes. The area has been somewhat altered by the construction of the fish hatchery during the 1930s.

Areas of Existing Disturbance

There are fish burial pits at the western edge of the survey tract, in an area which also appears to have been artificially flattened. At the east edge of the survey tract there is another disturbed area, resulting from the construction of a septic tank drain field several years ago. Both of these activities have apparently taken place since the property was taken over by the S.C. Department of Natural Resources. At the south edge of the tract, within the hatchery fence, there is an area which appears to have been graded, probably during the original WPA/CCC construction of the facility.

Otherwise, the area exhibits little disturbance. The nearby buildings, in particular, have been well maintained and appear to have had only very minor modifications over the years.

Examination of Slopes and Identified Sites

The archaeological investigations failed to identify any cultural remains, excepting a very few trash items which appear to have been disposed of over the hatchery fence.

The survey area consisted of a fairly narrow terrace, about 50 feet in width, while to the north the building site exhibits a very steep slope (probably in excess of 40%). Shovel testing on the terrace found deep soils, likely the result of gradual downslope erosion. Shovel tests on the slope also exhibited well defined horizons and, surprisingly, little erosion.

The investigation revealed two architectural sites. Site U/73/0000/5080015.00 and 5080015.01 represent the hatchery building (1937) and associated rearing tanks (c. 1955).The hatchery building was built by the CCC and WPA and the rearing tanks, while replacements, are integral elements of the site complex. These are recommended eligible for inclusion in the National Register under Criteria A and C.

The rearing tanks will be within 50 feet of the new building, while the hatchery building will be within 400 feet of the new construction. It is likely that the new building, set at a higher elevation than the hatchery building, will have an intrusive impact on the NR eligible sites.

Site U/73/0000/5080016.00 and 5080016.01 represent the superintendent's house, an associated garage, and the garage-shop building. All of these structures were built by the CCC and WPA in 1937 and exhibit a high degree of integrity. They are recommended eligible for inclusion in the National Register under Criteria A and C.

These buildings are situated from 350 to 500 feet east of the proposed new building. The elevations are very similar, although the superintendent's house may be slightly higher. It seems likely that the new education building and visitor's center may have an intrusive effect on the existing CCC structures.

Management Recommendations

To ensure that the S.C. Department of Natural Resources clearly understands the area

incorporated in this survey, the boundary trees were painted with double orange blazes, while the utility corridor was marked using orange crosses. All construction, construction staging, and earth disturbing activities must be confined to this area.

If the lead permitting agency, in consultation with the State Historic Preservation Office, concurs that these structures are eligible for inclusion on the National Register we recommend that the S.C. Department of Natural Resources work with the State Historic Preservation Office to design a visitor's center and educational building that is in harmony with the existing rustic CCC structures. This may perhaps be accomplished by careful choice of building materials, as well as ensuring that the mass and scale of the new structure does not overwhelm the existing (generally small) buildings.

Based on maps of the facility there are additional WPA/CCC buildings on the property. Although these are not within sight of the proposed new building and have not been recorded by this study, they should be recorded and evaluated. We recommend that the S.C. Department of Natural Resources undertake this survey immediately.

These buildings have survived the past 50+ years with only minor modifications. We understand that the S.C. Department of Natural Resources has already contacted the State Historic Preservation Office to ensure that the proposed architectural design will not detract from the viewscape and that the integrity of the identified structures will be maintained. This is excellent and we encourage continued consultation on these architectural issues, both in compliance with the National Historic Preservation Act, as well as for compliance with South Carolina Code of Laws, 60-12-10 et seq., *Protection of State Owned or Leased Historic Properties*.

We also understand that their may be archaeological sites on the property. For example, correspondence from the Bureau of Sports Fisheries in 1945 made reference to the fish hatchery being on the site of an "Indian camp." In addition, the S.C. Department of Natural Resources Archaeologist, Mr. Chris Judge, indicates that flakes have been found around the manager's house (Mr. Chris Judge, personal communication 2000). Since the site is being affected by a variety of minor activities — such as the fish burials and the excavation for a septic tank field — we recommend that the entire parcel be intensively surveyed. This would allow the hatchery to more effectively manage any resources which might be identified. This, however, is only a recommendation and carries no requirement of law.

It is possible that archaeological remains may be encountered in the survey tract during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office, or the S.C. Department of Natural Resources Archaeologist (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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